

ZX USER

No. 2



● Flee from the empire – a challenging Spectrum adventure to type in

● Test your reactions with our ZX81 game

● Software reviews: we rate games and utilities



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Welcome to the second issue of ZX User, the essential magazine for users of the Spectrum and the ZX81.

It's packed with software reviews and listings, some just for fun and some which you'll find useful.

Don't forget, though, that ZX User is your magazine. So let's hear from

you. Your letters will help us to give you an even better magazine.

And if you would like to see your work on our pages, read the advice under the heading: You can get into print.

Happy computing!

You can get into print

WE WELCOME programs and articles from our readers. If you feel that your work meets our standards, please submit it to us for consideration for publication.

Programs must always be sent on cassette. Listings are helpful, but not necessary. Check carefully that they are bug-free. Include full details of what your program does, how it works, variables you have

used and hints on conversion. See the programs in this issue for guidance on what your paperwork should include.

Articles on using the Spectrum and the ZX81 should be no longer than 2,000 words. Those most likely to be published will help our readers make better use of their computers by giving useful advice, possibly with programming examples, tables and so on. Short hints are also welcome.

All submissions will be acknowledged and the copyright in such works which will pass to Argus Specialist Publications Ltd will be paid for at competitive rates.

Keep a copy of your work and include an SAE. Label everything clearly and give a daytime and home phone number if you can. All work for consideration should be sent to:
Paul Liptrot, ZX User, No. 1 Golden Square, London W1R 3AB.

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AWIDE SPECTRUM OF PROGRAMS

Quite a mixture of software for your Spectrum. Our panel of reviewers has looked at them all and give you their views

Sci-File

48K £19.95

Visions, 1 Felgate Mews, Studland St, London W6

New from Visions is a program generator for a filing system and spreadsheet.

Excellent documentation with quick-start and detailed, technical manuals for both major programs on the twin-cassette package. They are essentially BASIC, and, taking you slowly and carefully through the decisions necessary to hold and display your own data, set up the framework of variables. Well written and user friendly.

Though the master program is BASIC, there are a number of routines in machine code to search for your data, delete it, read it and so on. These are added by merging with another program. The whole structure is then saved to tape for future use. The companion spreadsheet is developed in a similar way, and information is transportable from the database, a useful feature.

Sadly, this major achievement in software has been overtaken

by hardware. No provision is made for Microdrives in the type of software for which it is purpose built. Given the excellent detail of the manual, you can modify the BASIC, but you would have to work out how. Which rather negates the purpose of the whole thing D.M.

instructions	100%
ease of use	100%
display	95%
value for money	40%

★ ★ ★ ★

Star Reader A 48K £6.95

Scisoft, 5 Minster Gardens, Newthorpe, Eastwood, Notts

Another practice and teaching program to test a child's knowledge - but a well-planned and extremely well-designed one, using the Spectrum's potential to its fullest. For six- to 11-years-old.

Each side has three levels, with deletions - putting words from a list into sentences - at each level. If you are wrong the correct word is put in. At the end the sentences are listed to form part of the story.

Level one has sequencing (putting sentences in the correct order, with a big tick when correct or giant cross when wrong), level two has alphabetical order and level three has encyclopaedia work.

Side A is based upon a space story, Lunar Probe, and side B upon Bear Mountain.

The program practises alphabetical order visually, with the option to change, and leads on to its use in accessing information from encyclopaedia. It is a shame that, when sequencing, the use of the deletion key clears the whole sentence painstakingly typed in - very frustrating for young children. T.W.

instructions	90%
ease of use	90%
display	80%
value for money	95%

★ ★ ★ ★ ★

Play as you learn

48K £4.95

Turtle, 40 School Rd, Finstock, Oxford OX7 3DJ

An amateurish program, useful with primary or remedial children.

A rhyme teaches the alphabet, followed by a test. Correct answers are visually rewarded and wrong answers corrected. Score is kept at screen top and test completion brings retest or two games: Alphabet Snake is too fast and Alphabet Shootout starts with an exceedingly long flashing sequence.

Compass teaches simple compass points, re-inforcing information with a treasure hunt. Help is given in the shape of warm, hot or boiling, and one glimpse of where the treasure is.

Mathematical Hangman invites name input, number of questions and level - 5 to 11 years. Correct answers bring one high note and a smiling face, incorrect answers produce a grimace and parts of the gallows.

Scores are kept on screen; prizes are awarded every five correct answers and score sheet at the end.

In Coordinates the player's name is entered and an addictive game of "find the person" on a grid is played. A song is played when the person is found. T.W.

instructions	65%
ease of use	70%
display	70%
value for money	60%

★ ★ ★

The Prize 48K £5.50

Arcade, Technology Hse, Chislehurst Rd, Orpington

An arcade game with a prize at the end! 20p of the price goes into the fund, so if it sells well and you are the first to photograph the final screen with its code, you get the lot!

An enormous playing area, à la Trans Am, is revealed in the "window" of the screen. You pilot your ship through a maze in order to reach the innermost chamber. Various nasties await in the form of Death Drones, Mutants and Crushers. Help is on hand in the form of energy bases which give a short period of immunity, if you can find them. Also hidden are the code pods which must be collected to reach the next level.

The graphics are superior. Fast and flicker-free, they stand comparison with the best from Ultimate and Software Projects, though clearly inspired by the Liverpool School of Hackers. Sound, though sparse, is acceptable. A joystick is essential. Keyboard control is very difficult.

Will you like it? It's a combination of adventure and Pac-Man, Trans Am and Space Invaders, so it's up to you. D.M.

instructions	100%
playability	100%
graphics	75%
value for money	80%

★ ★ ★ ★

Airbase Invader

48K £5.95

CP Software, 2 Glebe Rd, Uxbridge, Middx UB8 2RD

A political arcade game, based loosely upon Air Atac - but not refined. You are Peace Women Annie in the Greenham Common USAF base, trying to prevent the Ronnie Raygun clones reaching the red nuclear attack button, and blowing up the world. To hinder you there are vast numbers of Harry Hardnoses - gutterpress photographers; Old Bills; Squaddies and Iron Ladies (thank goodness

there's only one in real life). Don't bump into any of these or you'll be bumped off. Blowing kisses at the lads will devastate them, improving your score, but the Iron Lady is impervious to them - as we all know.

As you move through rooms and levels you can enhance your score by picking up food, drink, maps, and secret documents left by the underground movement. Unfortunately there is no hail

of fame, and as the score at screen top left is so small, you rarely know how well you've done. Also on screen is hi-score, what level the President Rayguns are on and flashing warnings when they approach the red button - but no map of the base!

instructions	80%
playability	75%
graphics	75%
value for money	65%

★ ★ ★ ★

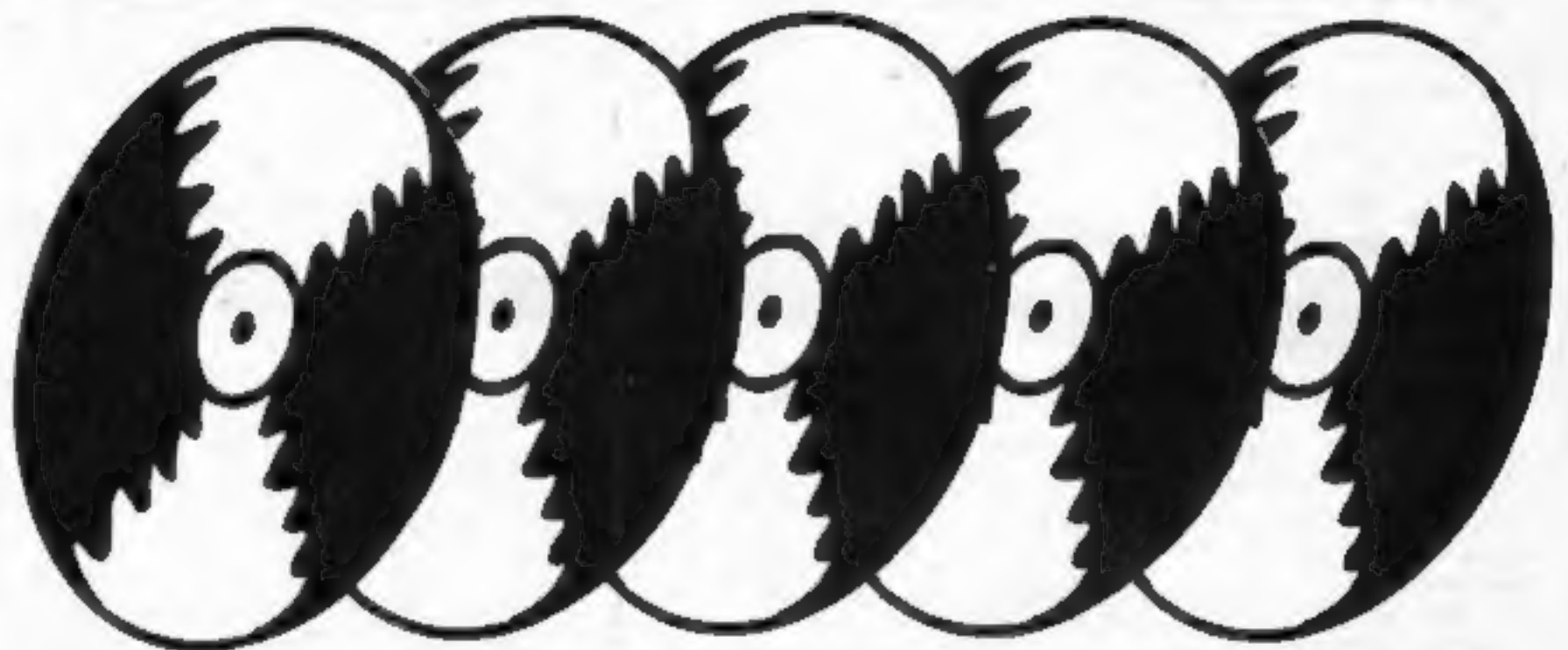
TOP OF THE POPS

Follow the progress of the latest software on your own chart.
This program by Barrie Penman shows you how

Keep up to date with the latest hits in your own version of the top ten. This program is easy to adapt so that you can keep tabs on the rise to fame or the descent to oblivion of all your favourite games.

Not only will you always be aware of the fate of new chart-toppers, but you can also keep track of high scores. The first three high score figures flash on your screen.

This program is menu driven. You can print out hard copy and keep a permanent record of high flyers and drop outs. Several error traps are included.



- How it works**
- 20 POKEs for capital lock and keyboard click. When S=2 prints on screen # S (1000-1190); when S=3 operates printer. Variable R = colour of paper
 - 22 prints menu on screen
 - 100 dimensions, arrays and variables for line numbers
 - 120 input data with error traps, update of data via option 6
 - 300 routine to update high scores
 - 400 routine to rearrange chart positions (arrays) with error traps
 - 700 routine to delete any game
 - 800 SAVE
 - 1000 GOSUB: used constantly to display or print updated data note: print PRINT # S used for printer or screen display
 - 1100 correct figures in right hand column

```

10 BARRIE PENMAN 1984          TOP TEN
20 NEW SAVE:TOP TEN 17 LINE 20
21 BORDER 14 PAPER 61 INK 01 CLR 1 FOUR CORNERS:VARE (TAB:10)X LET S=0:LE R=
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70
80
90
100 LET S=2: DIM A(10): DIM B(10): DIM C(10): DIM D(10): DIM E(10): DIM F(10): DIM G(10): DIM H(10): DIM I(10): DIM J(10)
105 LET S=1: LET R=1
110 GO SUB 1000
120 IF S=1 THEN BEEP 1,-20: INPUT " CHART FULL"          ENTER 6 TO
RETURN TO MENU "1" GO TO 20
121 FOR S=0 TO 9
122 IF S=1 THEN GO TO 100
123 LET A(S)=0
124 LET B(S)=0
125 LET C(S)=0
126 LET D(S)=0
127 LET E(S)=0
128 LET F(S)=0
129 LET G(S)=0
130 LET H(S)=0
131 LET I(S)=0
132 LET J(S)=0
133 PRINT TAB (15-LEN PRINT)
134 INPUT "ENTER TITLE (12) (ENTER MAX) " FLASH 1,"OR" FLASH 0" OUT OF PRT
135 PRINT "1"
136 IF LEN V(12) THEN BEEP 1,-20: GO TO 130
137 LET A(S)=V(12) OR "QUIT" OR "ABORT" OR "QUIT" THEN LET A(S)=0
138 " GO TO 20
139 PRINT TAB (15-LEN PRINT)
140 INPUT "TYPE IN YOUR HI-SCORE" (R DIGITS MAX) "1"
141 LET B(S)=C(0)
142 IF LEN C(0) THEN BEEP 1,-20: GO TO 130
143 PRINT TAB (17-LEN C(0)): B(S)
144 INPUT "IF NEW GAME PRESS" "1"
145 IF S=1 OR S=2 OR S=3 THEN LET S=0: GO TO 20
146 GO SUB 1000
147 INPUT "ENTER LINE NO. OF NEW HI-SCORE" FLASH 1,"OR" FLASH 0" TO MENU
148 TO MENU "1"
149 IF S=0 THEN GO TO 20
150 IF S=1 THEN BEEP 1,-20: GO TO 130
151 INPUT "ENTER NEW HI-SCORE (MAX 9 DIGITS) FOR" FLASH 1,"OR" FLASH 0"
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200 LET D(STRN "
201 IF "1" THEN BEEP 1,-20: LET S=1: PRINT 64,"SCORE OVER 9 DIGITS LOW
202 "1" PAUSE 60: GO TO 190
203 LET C(S)=V
204 GO TO 200
205 GO SUB 1000
206 INPUT "ENTER LINE NO. OF CHART FLYER" FLASH 1,"OR" FLASH 0" TO MENU
207 TO MENU "1"
208 IF S=0 THEN GO TO 20
209 INPUT "ENTER NEW POSITION OF" YOUR CHART FLYER "1"
210 IF S=1 THEN BEEP 1,-20: GO TO 410
211 IF S=2 THEN BEEP 1,-20: GO TO 410
212 LET A(S)=V(1) OR "1" LET B(S)=V(2) OR "1" LET C(S)=V(3) OR "1"
213 FOR N=4 TO 9: STEP 1
214 LET A(N)=V(N) OR "1" LET B(N)=V(N) OR "1" LET C(N)=V(N) OR "1"
215 NEXT N
216 LET A(S)=V(1) OR "1" LET B(S)=V(2) OR "1" LET C(S)=V(3) OR "1"
217 GO TO 200
218 GO SUB 1000
219 INPUT "ENTER LINE NO. OF CHART FLYER" FLASH 1,"OR" FLASH 0" TO MENU
220 TO MENU "1"
221 INPUT "TYPE IN THE NEW POSITION OF" YOUR CHART FLYER "1"
222 IF S=1 THEN BEEP 1,-20: GO TO 510
223 IF S=2 THEN BEEP 1,-20: GO TO 510
224 LET A(S)=V(1) OR "1" LET B(S)=V(2) OR "1" LET C(S)=V(3) OR "1"
225 FOR N=4 TO 9: STEP 1
226 LET A(N)=V(N) OR "1" LET B(N)=V(N) OR "1" LET C(N)=V(N) OR "1"
227 NEXT N
228 LET A(S)=V(1) OR "1" LET B(S)=V(2) OR "1" LET C(S)=V(3) OR "1"
229 GO TO 200
230 CLR 1: LET R=2: BORDER 2: PAPER 61: INK 01 CLR
231 GO SUB 1000
232 LET S=3
233 INPUT "A N E T O U C E R T A I N" Enter "Y" to continue "1"
234 IF S=1 THEN GO TO 20
235 INPUT "ENTER LINE NO. OF CHART DROP OUT" FLASH 1,"OR" FLASH 0" TO
RETURN TO MENU "1"
236 IF S=0 THEN GO TO 20
237 IF S=1 THEN BEEP 1,-20: GO TO 700
238 LET A(S)=V(1) OR "1" LET B(S)=V(2) OR "1" LET C(S)=V(3) OR "1"
239 FOR N=4 TO 9
240 LET A(N)=V(N) OR "1" LET B(N)=V(N) OR "1" LET C(N)=V(N) OR "1"
241 NEXT N
242 GO SUB 1000
243 INPUT "TYPE IN TITLE NO. TOP TEN" "1"
244 PRINT 28 LINE 20
245 STOP
246 CLR 1: PRINT 64: INK 2: PAPER 61: TAB 11: "TAB:61" TITLE:"TAB 11:"HI-SCOR
E:"TAB 27:" "68"
247 PRINT 65: INK 1: "-----"
248 FOR N=1 TO 9:
249 IF N=1 THEN 1: PRINT 66: PRINT 65: INK 2: "*****"
250 IF N=2 THEN LET J=1: PRINT 65
251 IF N=3 THEN PRINT 65: PRINT 65: INK 2: "*****" "1" PRINT 65
252 LET A(N)=V(N) OR "1" LET B(N)=V(N) OR "1" LET C(N)=V(N) OR "1"
253 PRINT 65: INK 01: PAPER 61: TAB 13: LEN PRINT: TAB 14: PRINT: TAB 15: HI-SCOR
E: TAB 27: TAB 27: FLASH 0: "1" PRINT: LET J=0
254 NEXT N
255 RETURN
    
```

SERIOUSLY Speaking

When you've finished with games, here's a batch of programs designed to take your Spectrum further

Computer Studies

48K £8.95

Longman, Longman House, Burnt Mill, Harlow, Essex CM20 2JE

This has been written by someone with a sense of humour, which is a great help when working for O-Level or CSE.

There are five programs here. Text is a revision database containing 500 references to Computer Studies topics, with lots of good advice too. Visicode is a simulation of a simple machine code, allowing you to assemble instructions, see what they do, and modify your program accordingly. Files shows how a file handling system works. You can save files to tape and create your own database. Logic takes you from first principles to logic gates, and includes a test.

Finally, and humorously,

★★★★★

Putin, is a linked series of routines into which bugs have been introduced! You must debug the routines and get them running. Every possible mistake seems to have been put into the bubble sort, graphics drawing, mean calculation etc. After debugging, you can save the routines to tape for use in your coursework.

The screen layout and input handling of this package are magnificent. If only all computer-assisted learning packages were this well done! Highly recommended.

D.M.	
instructions	100%
ease of use	100%
display	100%
value for money	100%

Snail Logo

48K £9.95

CP, 2 Glebe Rd, Uxbridge, Middx UB8 2RD

Logo is a high level language for computers which is recommended for teaching because it encourages logical program design. Logo has turtle graphics, which can be used to control a robot turtle drawing a pattern on the floor.

Snail Logo is a simulation of turtle graphics for the Spectrum using a snail on-screen instead of the turtle. Don't think you're buying the whole language, it's just the graphics you get, although you could control a Zeaker robot.

The program itself is written in BASIC, and Snail is apt for the pace. It's even slower when you accidentally break into it and have to reload.

★★★★

The tape comes packaged with a detailed manual. Essentially, you must specify PROCEDURES at the outset, and these can be nested, and then called in the main program, which contains instructions for the initial position of the Snail and its movement. Quite a complex pattern can be drawn with a program of just seven instructions.

The package claims "this is more than a pretty pattern maker" and so it is. Logical thought can be encouraged by its use.

D.M.	
instructions	100%
ease of use	75%
display	80%
value for money	80%

Floating Point Forth

48K £13.95

CP, 2 Glebe Rd, Uxbridge, Middx UB8 2RD

Forth is a very fast language which takes up less space than a comparable BASIC program. It is a lower level language, that is it's much closer to the way in which the CPU works. All Forth Programs consist of words, even the commands are words, and you teach the computer new words in order to achieve your task. Certain words are "built in," and it's these that are used to define your own.

This implementation is of

★★★★★

Forth 79 — there are others — and features floating point arithmetic as opposed to the "whole number" arithmetic found in most versions for the Spectrum. Integer is much faster, but even in its floating point mode, this package is still at least twice as fast as Sinclair BASIC.

A good manual comes with this package. You'll need to work at it, but all you need to know is here.

More important for the advanced user is the Editor section which allows testing and manipulation of the program in a way other packages won't allow. £1 cheaper than Forth from Sinclair, and more features must make this a good buy.

D.M.	
instructions	95%
ease of use	95%
display	N/A
value for money	100%

Spelling Bee

48K £6

Image Systems, 34 Lynwood Drive, Worcester Park, Surrey KT4 7AB

This started life as a 16K ZX81 program in English only. It is written in BASIC and the illustrations are formed from characters, not high resolution graphics.

The educational market is wide-open at present — so why are software firms content to publish unappealing programs of poor educational value? Programmers need to research the market.

Using the extra Spectrum

★

memory has given us sound and colour, and a French option. Cassette side A is easy and B hard. We are invited to enter our name at the start — but no use is made of it. Why?

Personally, I preferred to get my spellings of the on-screen pictures wrong in order to hear the pleasing odd sounds instead of the little show made when correct — a common error made by programmers. At the end of a sequence pictures appear, for

example a pen or fish, with comments such as "not bad" or "whoops" dripping from the nib or bubbling from the mouth. The pictures appear in the same order and no attempt is made to teach.

I cannot recommend this program.

T.W.	
instructions	60%
ease of use	55%
display	35%
value for money	20%

Chessmaster

48K £15.95

Serin, PO Box 163, Slough SL2 3YY

Chess, like most board games, can be learned by almost anyone of any age, and the best way of learning chess is by personal tuition from an expert. That's exactly what you get in this package of three cassettes and explanatory booklet. One of the cassettes contains a computer program, the other two give a commentary on the program.

Assuming you know nothing about chess, the mellifluous tones of Tony Miles guide you through all the correct moves and tactics. Tony Miles is Britain's leading chess player, and one of the world's top Grandmasters, so he knows what he is talking about. I shall never be more than average at chess but after reviewing this I am better informed.

If you wish to learn chess, in all its subtleties, you can do no better than start with this package. If you think the price is steep how much do you think a Grandmaster could charge per hour for personal lessons?

This has got to be the best computerised chess tutor. Beat that!

B.B.	
instructions	100%
ease of use	100%
display	90%
value for money	100%

★★★★★

PICTURE THIS

Different nibs and inks can be used to create your own drawings in this graphics utility by Christopher Lang. Let your artistic streak take over and experiment with colour!



This is a useful utility program which allows you to draw a picture and save it to tape. The program contains a simple routine which saves bytes using the screens command. You can also print out your drawing.

To make your program more professional, you could feature your drawing at the beginning of your program. You can save a half-completed picture to tape, reload at a later stage and modify it.

The special feature of this program is that you can choose any one of four different sized nibs at any point. The nib is guided around the screen by the usual cursor keys and can also be moved diagonally. You can also choose different inks, but it is best to keep the choice of colours to a minimum, and don't use them too closely together because of the Spectrum's limited graphics/colour capability.

You can also draw circles if you input the co-ordinates of the centre of the circle and its radius. The program contains a routine which will detect whether the circle will be too big and overlap the edge of the screen, before it is drawn and stop this happening. If you wish to write in your picture a simple routine can cope with this. If you make a mistake it is easy to correct it by pressing E with caps-shift and going back over the mistake with the cursor keys, as the E switches the computer into inverse mode. When the mistake has been erased, pressing W with caps-shift will put the computer back into the drawing mode.

Load the program by typing LOAD "draw". Some questions will appear. Specify the colours and the size of nib

and the co-ordinates (all of which may be changed at any time during the program). Prompts will be given to tell you what to do when the program is running. The top line of the screen cannot be used for drawing, as it is used for prompts. When the picture is printed this line will be omitted.

Variables

Caps-shift key with:

- Z copy
- A exit from program
- X clear screen to restart
- W switches computer back to drawing mode after erase mode
- E switches computer into inverse mode in order to erase
- N change nib size
- Q change cursor position
- L load a picture
- S save a picture
- C draw a circle
- I change ink
- P print writing on screen
- cursor keys to move nib left, right, up and down
- y move diagonally NE
- h move diagonally SE
- t move diagonally NW
- g move diagonally SW

How it works

- 1-20 set up variables, colours nib size and cursor
- 25-300 main loop detects key input
- 900-950 colour set up
- 1000-1050 routine for saving pictures
- 1500-1530 routine for loading a picture for modifying
- 2000-2080 routine for printing writing on picture
- 3000-3020 program variables
- 3030-3065 colour options
- 4000-4090 routine for drawing circle
- 4500-4540 allows you to plot nibs co-ordinates
- 5000-5090 sets up nib size

```

1 REM draw
2 REM START
3 GO SUB 3000
10 GO SUB colour
15 GO SUB nib
20 GO SUB cursor
25 REM MAIN LOOP
30 PRINT AT 0,0;"          "AT 0,10;"          "
40 PRINT AT 0,0;"(x=";x;"y=";y;"AT 0,10;"(y=";y;"x=";x;"
50 IF n=1 THEN PLOT x,y
60 IF n=2 THEN PLOT x,y; DRAW 1,0; DRAW 0,1; DRAW -1,0
70 IF n=3 THEN PLOT x,y; DRAW 2,0; DRAW 0,1; DRAW -2,0; DRAW 0,1; DRAW 2,0
80 IF n=4 THEN PLOT x,y; DRAW 3,0; DRAW 0,1; DRAW -3,0; DRAW 0,1; DRAW 3,0; D
REM 0,1; DRAW -3,0
100 LET i=INKEY$
110 IF (i<>"252z" AND (i$="B" OR i$="Y" OR i$="H")) THEN LET n=i$
120 IF (i$="D" AND (i$="5" OR i$="I" OR i$="G")) THEN LET n=i$
130 IF (i$="O" AND (i$="6" OR i$="Q" OR i$="N")) THEN LET n=i$
140 IF (i$="A" AND (i$="7" OR i$="Y" OR i$="H")) THEN LET n=i$
150 IF i$="A" THEN INK 0; PAPER 7; BORDER 7; CLS ; STOP
160 IF i$="I" THEN PRINT AT 0,0;"          "
170 IF i$="X" THEN CLS : GO TO 1
180 IF i$="W" THEN INVERSE 0
190 IF i$="W" THEN GO SUB nib; GO SUB cursor
200 IF i$="E" THEN INVERSE 1
210 IF i$="Q" THEN GO SUB cursor
220 IF i$="L" THEN GO SUB load
230 IF i$="C" THEN GO SUB circle; GO SUB nib; GO SUB cursor
240 IF i$="I" THEN INPUT AT 0,0;"Colour ink (0-7) ? ";i; INK i
250 IF i$="P" THEN GO SUB print; GO SUB nib; GO SUB cursor
260 IF i$="S" THEN GO SUB save
300 GO TO 30
900 REM SCREEN
910 INPUT "Paper ?";pa; IF pa<0 OR pa>7 THEN GO TO 910
920 INPUT "Ink ?";in; IF in<0 OR in>7 THEN GO TO 920
930 PAPER pa; BORDER pa; INK in; CLS
940 RETURN
1000 REM SAVE
1010 PRINT AT 0,0;"          "
1020 INPUT AT 0,0;"Enter file name to be saved ";f;
1030 IF LEN f<10 THEN LET f=f+SPACES(10-LEN f)
1040 SAVE f;SCREEN$
1050 RETURN
1500 REM LOAD
1510 INPUT AT 0,0;"Enter file name to be loaded ";f;
1520 LOAD f;SCREEN$
1530 RETURN
2000 REM PRINT
2010 PRINT AT 0,0;"Writing to start at          "
2020 INPUT AT 0,0;"X-coordinate ? ";x;
2030 IF x<0 OR x>31 THEN GO TO 2020
2040 INPUT AT 0,0;"Y-coordinate ? ";y;
2050 IF y<0 OR y>21 THEN GO TO 2030
2060 PRINT AT 0,0;"Enter line to be printed at x,y "
2070 INPUT AT 0,0;n;
2080 PRINT AT 0,0;"          "
2090 RETURN
3000 REM VARIABLES
3010 LET n=0; LET y=0; LET screen=900; LET save=1000; LET load=1500
3020 LET colour=3030; LET circle=4000; LET cursor=4500; LET nib=5000; LET print=
2000
3030 REM COLOUR
3035 PAPER 7; BORDER 7; INK 0; CLS
3040 INPUT AT 0,0;"Do you wish to set          " up the colours (y or n)";i;
3050 IF i$="y" THEN GO SUB screen; RETURN
3060 IF i$="n" THEN RETURN
3070 GO TO 3040
4000 REM CIRCLE
4010 PRINT AT 0,0;"X-coordinate range(0-252)";
4020 INPUT AT 0,0;"Circle's X-coordinate ? ";x;
4030 PRINT AT 0,0;"Y-coordinate range(0-166)";
4040 INPUT AT 0,0;"Circle's Y-coordinate ? ";y;
4050 PRINT AT 0,0;"          "
4060 INPUT AT 0,0;"Circle's Radius ? ";r;
4070 IF r>252 OR r<0 THEN GO TO 4076
4072 IF y>162 OR y<0 THEN GO TO 4076
4075 GO TO 4080
4076 PRINT AT 0,0;"Circle too big.Press a key"; PAUSE 0
4077 PRINT AT 0,0;"          "
4078 GO TO 4000
4080 CIRCLE x,y,r
4090 RETURN
4500 REM CURSOR
4505 PRINT AT 0,0;"X-coordinate range(0-"252";x)";
4510 INPUT "Nib's X-coordinate ? ";x;
4515 IF x<0 OR x>252 THEN GO TO 4530
4517 PRINT AT 0,0;"Y-coordinate range(0-"162";y)";
4520 INPUT "Nib's Y-coordinate ? ";y;
4525 IF y<0 OR y>162 THEN GO TO 4540
4526 PRINT AT 0,0;"          "
4527 RETURN
4530 PRINT AT 0,0;"X is out of range.Press a key"; PAUSE 0; PRINT AT 0,0;"          "
"; GO TO 4510
4540 PRINT AT 0,0;"Y is out of range.Press a key"; PAUSE 0; PRINT AT 0,0;"          "
"; GO TO 4520
5000 REM NIB SIZE
5005 PRINT AT 0,0;"          "
5010 PRINT AT 0,0;"(1)";AT 0,4;"(2)"; PLOT 27,149
5020 PRINT AT 0,0;"(2)";AT 0,12;"(3)"; PLOT 91,169; DRAW 1,0; DRAW 0,1; DRAW -1,0
5030 PRINT AT 0,16;"(3)";AT 0,20;"(4)"; PLOT 154,169; DRAW 2,0; PLOT 154,170; DRAW
2,0; PLOT 154,171; DRAW 2,0
5040 PRINT AT 0,24;"(4)";AT 0,28;"(5)"; PLOT 217,169; DRAW 3,0; PLOT 217,170; DRAW
3,0; PLOT 217,171; DRAW 3,0; PLOT 217,172; DRAW 3,0
5050 INPUT "Enter size nib (1-4)";n;
5060 IF n=1 OR n=2 OR n=3 OR n=4 THEN PRINT AT 0,0;"          "
5065 IF n=1 THEN LET z=3
5070 IF n=2 THEN LET z=2
5075 IF n=4 THEN LET z=0
5080 IF n=3 THEN LET z=1
5090 RETURN

```

```

1 REM draw
2 REM START
3 GO SUB 3000
10 GO SUB colour
15 GO SUB nib
20 GO SUB cursor
25 REM MAIN LOOP
30 PRINT AT 0,0;"          "AT 0,10;"          "
40 PRINT AT 0,0;"(x=";x;"y=";y;"AT 0,10;"(y=";y;"x=";x;"
50 IF n=1 THEN PLOT

```

FLEE FROM THE EMPIRE

Please help me! I have been held prisoner of the empire for longer than I can remember for a crime I did not commit. When the guards came to give me my midday meal I managed to give them the slip and I am now in the loading bay of a starship of the royal fleet.

If I can find 10 treasures and take them to the cargo hold (south of here), the captain has offered to fly me out. This is not an easy task to complete as there are guards everywhere.

Words understood

Note: give instructions in two-word sentences.

N,S,E,W

HELP, PRAY, GET, TAKE, GRAB, DROP, LEAVE, SHOOT, INSERT, INVENTORY, LOOK, ATTACK, HIT, EXAMINE, BLAST, BUILD, RUB, UNLOCK

My native language is Poldavian and I don't speak English very well, so if you find I don't understand you, try another word.

Hints

The fun of playing an adventure game comes from solving the problem on your own, so I have only included a few hints to help you over difficult problems.

- 1 The security guards may let you pass if you SHOW them a security pass
- 2 To open the locked gate you must insert a special key
- 3 The lever arm will open if you drop a rock on it
- 4 Only one sort of weapon can kill a dalek
- 5 The vending machine needs the right sort of money
- 6 The sports manager can be persuaded to let you in
- 7 Watch out! It's difficult to get out of the mine once you have got in

You are a prisoner of the empire. You must complete 10 tasks in this adventure game by S.W. Lucas before you can break free. The guards are on your trail so tread carefully!


```

10 REM ** Spaceship retreat **
20 REM ** an adventure game for 48K Spectrum **
30 GO SUB 3160
40 DIM q$(46,80)
50 DIM v$(3,100)
60 DIM b$(60,1)
70 DIM n$(60,40)
80 DIM m$(53)
90 DIM a$(65,110)
100 LET a$=""
110 LET p=2: LET e=0
120 RESTORE
130 GO SUB 400
140 CLS
150 FOR x=1 TO 3: LET v$(x)="" : NEXT x
160 PRINT "I am a "q$(p): LET a$=""
170 LET b$="" : LET c$=""
180 IF a$(p,1)>0 THEN LET a$="North"
190 GO SUB 3210
200 IF a$(p,2)>0 AND LEN(a$)>0 THEN LET a$=a$+",South"
210 IF a$(p,3)>0 AND LEN(a$)>0 THEN LET a$=a$+",South"
220 IF a$(p,4)>0 AND LEN(a$)>0 THEN LET a$=a$+",East"
230 IF a$(p,5)>0 AND LEN(a$)>0 THEN LET a$=a$+",East"
240 IF a$(p,6)>0 AND LEN(a$)>0 THEN LET a$=a$+",West"
250 IF a$(p,7)>0 AND LEN(a$)>0 THEN LET a$=a$+",West"
260 IF a=10 THEN CLS : GO TO 4000
270 PRINT "I can go to "a$
280 IF p=22 AND a$(22,3)=0 THEN PRINT z$(35)
290 LET e=0: FOR t=1 TO 37: LET pp=0: IF b$(t,1)=p THEN LET pp=1
300 IF pp=1 THEN GO TO 230
310 NEXT t: GO TO 250
320 IF e=0 THEN INK 1: PRINT "I can see a "t: INK 2
330 PRINT q$(t): LET e=1: GO TO 220
340 INK 3: PRINT "What should I do now ?": INPUT z$
350 IF LEN(z$)>2 THEN LET b$=z$(1 TO 2)
360 IF LEN(z$)>3 THEN LET c$=z$(1 TO 3)
370 CLS : PRINT "please hang on a second!"
380 IF z$="n" AND a$(p,1)>0 THEN LET p=a$(p,1): GO TO 110
390 IF z$="s" AND a$(p,4)>0 THEN LET p=a$(p,4): GO TO 110
400 IF z$="e" AND a$(p,2)>0 THEN LET p=a$(p,2): GO TO 110
410 IF b$="ac" THEN GO SUB 3210: PRINT "you have scored "z$ " out of 10":
420 GO TO 110
430 IF z$="a" AND a$(p,3)>0 THEN LET p=a$(p,3): GO TO 110
440 IF b$="ge" OR b$="te" OR b$="gr" THEN GO TO 1350
450 IF b$="fu" OR b$="pl" THEN GO SUB 3360
460 IF b$="he" THEN GO TO 2400
470 IF b$="dr" OR b$="le" OR b$="sh" OR c$="ins" THEN GO TO 1840
480 IF c$="loo" THEN GO TO 110
490 IF b$="pr" THEN GO TO 3390
500 IF b$="at" OR b$="hl" OR b$="zi" THEN GO TO 2130
510 IF b$="ek" THEN GO TO 2210
520 IF b$="sl" OR b$="bu" THEN GO TO 2300
530 IF b$="ru" THEN GO TO 3400
540 IF c$="inv" THEN GO TO 2290
550 IF b$="un" THEN GO TO 2370
560 PRINT "I'm sorry I don't speak very good english "
570 GO TO 110
580 STOP
590 FOR h=1 TO 46
600 FOR d=1 TO 8

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460 READ a(h,d)
465 NEXT d
470 READ g(h)
480 NEXT h
491 FOR h=1 TO 37
490 READ g(h): READ b(h,1)
491 NEXT h
500 FOR h=1 TO 53
510 READ n(h),e(h): NEXT h
511 FOR h=1 TO 65
512 READ u(h)
513 NEXT h
520 RETURN
530 DATA 2,0,0,0
531 DATA "in the cargo hold. A sign reads DNEP TREASURES HERE"
540 DATA 43,1,3,8
541 DATA "in a large loading bay aboard a Starship of the Royal fleet"
550 DATA 0,0,4,2
551 DATA "On a moving walkway high above the ground."
552 DATA 0,10,9,3
560 DATA "by a videophone kiosk"
570 DATA 0,1,6,10
571 DATA "at a junction in the walkway"
580 DATA 0,0,0,3
581 DATA "on a long narrow path."
590 DATA 0,0,8,0
591 DATA "at the entrance to the Spirolian headquarters. The guard won't let a
600 DATA 0,0,2,7
601 DATA "outside the Spirolian central headquarters"
610 DATA 0,0,0,4
611 DATA "in the 'Mega Mead'...the best pub this side of Alpha Centuri"
620 DATA 4,0,0,0
622 DATA "at the edge of a dark and menacing forest."
630 DATA 3,0,16,0
631 DATA "in a large clearing."
640 DATA 7,0,0,0
641 DATA "inside the main building of the Spirolian Headquarters"
652 DATA 0,18,14,13
654 DATA "at the entrance to a dark cave"
660 DATA 0,0,0,13
661 DATA "in a large glossy cavern. I hear sounds in the distance."
670 DATA 0,19,0,0
671 DATA "by a small opening"
680 DATA 0,0,0,13
681 DATA "in an area of total desolation"
690 DATA 12,23,26,0
691 DATA "in a damp, moss covered tunnel with water dripping down the walls"
700 DATA 14,0,19,0
701 DATA "on a narrow track"
710 DATA 18,27,0,18
711 DATA "at the entrance to a glossy tunnel"
720 DATA 0,28,0,0
722 DATA "in some changing rooms"
730 DATA 16,0,0,0
731 DATA "on an old wooden bridge over a deep chasm"
740 DATA 0,0,0,16
741 DATA "at the entrance to a strange force field"
750 DATA 34,0,0,23
751 DATA "in a storeroom full of boxes of ammunition"
760 DATA 0,0,31,0
761 DATA "in a vast hall. The walls are lined with velvet tapestries"
770 DATA 17,0,42,0
771 DATA "in a dimly lit corridor. There is a pervasive smell of stale tobacco
780 DATA 0,42,0,17
781 DATA "in a strange cavern full of smotic looking carvings."
790 DATA 19,0,0,0
791 DATA "in the entrance"
800 DATA 20,38,0,27
801 DATA "in a vast sports emporium."
810 DATA 21,0,0,0
811 DATA "at a dead end."
820 DATA 32,0,32,0
822 DATA "in a small enclosure which has been used for keeping livestock."
830 DATA 31,32,31,31
832 DATA "spinning in a space-time vortex"
840 DATA 0,31,33,30
841 DATA "in a large cavern with a hole in the floor which is fenced off by a
850 DATA 36,36,0,32
851 DATA "in a strange alien art gallery."
860 DATA 0,23,0,0
861 DATA "in a narrow corridor with glass walls"
870 DATA 41,41,41,34
871 DATA "in a spinning vortex"
880 DATA 36,36,36,36
881 DATA "trapped in an invisible force field"
890 DATA 32,0,0,0
891 DATA "in a map of the space time continuum"
900 DATA 28,0,0,0
901 DATA "in a shower. I'm getting very wet in here."
910 DATA 27,0,0,0
911 DATA "in a narrow passage"
920 DATA 0,0,0,42
921 DATA "in a steel lined strongroom"
930 DATA 41,41,41,33
931 DATA "in a dust filled room. I can't see clearly"
940 DATA 26,0,0,23
941 DATA "by a locked door. A message on the wall tells us how to unlock by
950 DATA 0,2,43,44
951 DATA "at the security desk in a large office. It seems strange... there's no
960 DATA 0,0,43,0
961 DATA "at the far end of the office"
970 DATA 0,0,0,42
971 DATA "at the entrance to a mine shaft. A large metal gate bars the way"
980 DATA 46,46,46,46
981 DATA "at the bottom of the mine shaft. Passages lead in all directions."
1000 DATA "a vending machine. There is a notice on it which reads 'THIS MACHIN
ME ONLY ACCEPTS DOLLARS"
1001 DATA 14
1010 DATA "an intergalactic dollar",37
1020 DATA "a CENTURIAN credit card",30
1030 DATA "a gin and tonic",9
1040 DATA "a book of antique spells",29
1050 DATA "a marble statue",33
1060 DATA "a JEMEL encrusted PICKAGE",14
1070 DATA "a regulation spartan tunic with a ZIRCONIUM",41
1080 DATA "a PLATINUM tipped sparkpalt",38
1090 DATA "the first edition of the Spark news printed on pure SILK",28
1100 DATA "a sparkbatter pfennig",31
1110 DATA "a Centurian sailing crystals of pure ZOPHURSPAR",13
1120 DATA "a purse full of money",11
1130 DATA "a plogutian bloodgaster",39
1140 DATA "a solid GOLD PRAGER GLM",40
1150 DATA "a security pass",4
1160 DATA "a heavy rock engraved BLACKPOOL",15
1170 DATA "a magnetic security key",43
1180 DATA "a rusty padlock",6
1190 DATA "a metal gate which will not open",12
1200 DATA "a vicious man setting tiger",16
1210 DATA "the manager of the sportshall",27
1220 DATA "an enormous door which is fireproof",42
1230 DATA "an evil DALEK guard who won't let me pass",10
1240 DATA "a pile of Kryptonite",25
1250 DATA "a lever shaped like a human arm",43
1260 DATA "a shelf full of old books (you never know what you might find here)"
1270 DATA "a mining helmet. It has a light in it",26

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1280 DATA "an old fashioned computer (ZX80 I think)"
1281 DATA 24
1290 DATA "a dirty handcart",32
1300 DATA "a large crate bearing the label 'ZX80'",29
1310 DATA "a computer repair man",21
1320 DATA "a small battery",3
1330 DATA "a control panel",4
1340 DATA "a high power laser",2
1350 DATA "some liquorice + CHEESE + ...a rare delicacy",20
1360 DATA "a repair manual",18
1370 DATA "silver",1,"earrings",1
1380 DATA "intergalactic",2,"dollar",2
1390 DATA "credit",3,"gin",4,"tonic",4
1400 DATA "book",5,"statue",6
1410 DATA "picaxe",7,"axe",7,"zirconium",8
1420 DATA "sparkpalt",9,"platinum",9
1430 DATA "silk",10,"news",10
1440 DATA "pfennig",11,"zophurpar",1,"crystals",12
1450 DATA "money",13,"dollar",14
1460 DATA "gold",15,"phaser",15,"pass",16,"rock",17,"magnet",18,"key",18,"padloc
1470 DATA "electronic",19,"propaganda",20
1480 DATA "tiger",21,"manager",22,"door",23,"dash",24
1490 DATA "pile",25,"kryptonite",25
1500 DATA "lever",26,"arm",26,"shelf",27,"helmet",28
1510 DATA "s=80",29,"handcart",30
1520 DATA "s=85",31,"microcomputer",31
1530 DATA "man",32,"computer",32
1540 DATA "small",33,"battery",33
1550 DATA "control",34,"panel",34,"laser",35,"chassis",36,"manual",37

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1550 GO TO 1000
1560 IF 10="zophurpar" THEN PRINT "sorry!"
1570 IF 1=1 THEN GO TO 1890
1580 GO TO 110
1590 LET a=0
1600 FOR h=1 TO 37: IF b(h,1)=a AND b(h,1)=a THEN LET a=1
1610 NEXT h
1620 IF a=0 THEN PRINT "I'm sorry I can't see it here": GO TO 110
1630 CLS : IF a=12 AND r=30 THEN PRINT a(12): GO TO 110
1640 IF a=14 AND r=31 THEN PRINT a(14): GO TO 110
1650 IF a=27 AND r=32 THEN PRINT a(27): GO TO 110
1660 IF a=10 AND r=34 THEN PRINT a(10): GO TO 110
1670 IF a=42 AND r=33 THEN PRINT a(42): GO TO 110
1680 IF r=35 OR r=36 AND a=23 THEN PRINT a(23): GO TO 110
1690 IF a=14 AND (r=1 OR r=2) AND b(1,1)=1 THEN GO TO 1810
1700 IF a=42 AND (r=37 OR r=38) THEN PRINT a(42): GO TO 110
1710 IF a=34 AND r=39 THEN PRINT a(34): GO TO 110
1720 IF a=21 AND (r=44 OR r=45) THEN PRINT a(21): GO TO 110
1730 IF a=14 AND (r=1 OR r=2) AND b(1,1)=14 THEN PRINT a(14): GO TO 110
1740 IF a=13 AND (r=18 OR r=19) AND b(13,1)=13 THEN PRINT a(13): GO TO 110
1750 IF a=9 AND (r=6 OR r=7) AND b(9,1)=9 THEN GO TO 1810
1760 IF a=9 AND (r=6 OR r=7) AND b(9,1)=9 THEN PRINT a(9): GO TO 110
1770 IF a=9 OR (r=6 OR r=7) AND b(9,1)=9 THEN PRINT a(9): GO TO 110
1780 IF a=29 AND b(4,1)=29 THEN PRINT a(29): GO TO 110
1790 IF a=28 AND (r=15 OR r=16) AND b(11,1)=28 THEN PRINT a(28): GO TO 110

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1800 IF p=28 AND (r=15 OR r=16) AND b(11,1)=28 THEN LET q(10)=a(57): LET b(11,1)=1
1810 LET q=0
1820 FOR d=1 TO 3: IF v(d,1)="" THEN LET v(d)=q(m(r)): LET q=1: LET d=0
1830 NEXT d
1840 IF q=0 THEN PRINT a(38): GO TO 110
1850 LET b(11,1)=0: GO TO 110
1860 GO SUB 3080
1870 IF 1=1 THEN GO TO 1890
1880 PRINT "I'm sorry I can't see a '1': GO TO 110
1890 LET q=0
1900 FOR d=1 TO 3: IF v(d)=q(m(r)) THEN LET v(d)="" : LET q=1
1910 NEXT d
1920 IF q=1 THEN GO TO 1840
1930 PRINT a(39): GO TO 110
1940 LET b(11,1)=0
1950 CLS
1960 IF p=7 AND r=24 THEN PRINT a(11): LET a(7,2)=13: LET b(14,1)=1: LET q(7)=0: "By an open gate"
1970 IF p=12 AND (r=26 OR r=21) THEN PRINT a(21): LET a(12,2)=17: LET a(12,3)=13: "I let b(20,1)=1: LET b(18,1)=0: GO TO 110
1980 IF p=14 AND (r=3 OR r=4) THEN PRINT a(9): LET q(1)=a(11): LET b(2,1)=1: "I GO TO 110
1990 IF p=17 AND r=6 THEN PRINT a(20): GO TO 110
2000 IF p=29 AND (r=7 OR r=6) THEN LET q(3)=a(14): PRINT a(12): GO TO 110
2010 IF p=28 AND r=11 THEN PRINT a(16): GO TO 110
2020 IF p=13 AND r=20 THEN PRINT a(18): GO TO 110
2030 IF p=45 AND r=28 THEN PRINT a(20): LET a(45,1)=46: LET b(28,1)=1: LET b(17,1)=1: GO TO 110
    
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2240 IF b(12,1)=0 AND r=15 THEN PRINT a(22): GO TO 110
2250 IF p=24 THEN PRINT a(27): GO TO 110
2260 IF (r=47 OR r=48) AND b(33,1)=0 THEN PRINT a(23): GO TO 110
2270 IF (r=22 OR r=23) AND b(11,1)=0 THEN PRINT a(22): GO TO 110
2280 PRINT a(23): GO TO 230
2290 PRINT "I have 1": PRINT a(43)
2292 PRINT a(44): PRINT a(45)
2300 LET f=0
2310 FOR h=1 TO 3
2315 IF v(h,1)="" THEN PRINT v(h): LET f=1
2320 NEXT h
2330 IF f=0 THEN PRINT "Nothing else"
2340 GO TO 110
2350 IF p=16 AND b(21,1)=1 AND b(15,1)=40 THEN PRINT a(46): LET a(14,2)=21: LET a(14,3)=22: LET b(21,1)=0: GO TO 110
2360 PRINT a(47): GO TO 110
2370 GO SUB 3080
2380 IF p=12 AND r=28 THEN PRINT a(31): LET a(12,3)=40: LET q(23)=a(24): LET a(43)=1: "I AM FREE" : LET a(41)=a lamp: GO TO 110
2390 PRINT "I don't know the combination": GO TO 110
2400 PRINT "I'm sorry but I'm so confused say you are, although I often try" : "gray" : "shut"
2410 GO TO 110
2420 DATA "The guard looks at my pass and takes it off me to examine"
2430 DATA "The key seems to work. The barrier opens and I can pass"
2440 DATA "You've got to be joking!"
2450 DATA "don't be silly"
2460 DATA "I know I'm a superhero, but even I can't lift him!"
2470 DATA "even I'm not that strong!"
2480 DATA "You must be joking! I'm not going near that unarmed!"
2490 DATA "It's even too heavy for me!"
2500 DATA "I drop it into the slot and an alarming fall to the floor!"
2510 DATA "The Centurian officer says "What's in it for me?"
2520 DATA "For a payment like that, you can have the lot"
2530 DATA "The caretaker likes that"
2540 DATA "The watch ne disappears!"
2550 DATA "I'm allowed to get it"
2560 DATA "That's odd, I seem strangely unable to do as you ask!"
2570 DATA "The page seems to come alive"
2580 DATA "I can't do that at the moment"
2590 DATA "The Centurian smiles and says "Thanks"
2600 DATA "The Centurian is unhappy!"
2610 DATA "The robot baron comes over and says if you try that on again" : "mate," : "I'll throw you to the Debris"
2620 DATA "There's a message on the screen which reads if at first you don't succeed"
2630 DATA "The battery seems to have some life left in it"
2640 DATA "for some reason this seems to interfere with the circuits and a new key door opens"
2650 DATA "a wheel slides to one side revealing a secret room"
2660 DATA "that seems like a good idea" but nothing happens!"
2670 DATA "That's done the trick. The Debris disintegrates!"
2680 DATA "a shrivelled mass of venom that used to be a Golem!"
2690 DATA "Whoops I missed"
2700 DATA "Well I hit it but nothing seems to have happened"
2710 DATA "The security code works. The padlock is undone, I AM FREE!"
2720 DATA "I can't seem to do that just now"
2730 DATA "I've already solved that"
2740 DATA "That's valuable stuff!"
2750 DATA "I can't see anything unusual"
2760 DATA "The baron says I don't serve your sort in here"
2770 DATA "It shows the message DATA FOR SPORTSMAN MEMBERS"
2780 DATA "I'm sorry my hands are full!"
2790 DATA "What do you think I do? STUPID?"
2800 DATA "The manager doesn't like that and won't let me in!"
2810 DATA "Yes thanks and says you can come in here any time you like!"
2820 DATA "I'll not fall for that"
2830 DATA "Watch out I think I may have been spotted!"
2840 DATA "I've just been attacked"
2850 DATA "I can't judge it. It seems here to stay"
2860 DATA "How do I expect to do that?"
2870 DATA "The repair man thanks me and lets me get past!"
2880 DATA "That's done it. It's stone dead"
2890 DATA "Don't be absurd"
2900 DATA "Seems like a good idea!"
2910 DATA "The wheel has just fallen off it!"
2920 DATA "This is getting boring"
2930 DATA "The field has become so weak that I can easily get past!"
2940 DATA "The ward caretaker will not let me!"
2950 DATA "The field is too strong to penetrate! There is a console here, but some parts are missing"
2960 DATA "An old man jumps out of the shadows and shouts something in Hailu language"
2970 DATA "The old man seems happy to let me in now"
2980 DATA "I'm sorry that word is not in my vocabulary!"
2990 DATA "I'd need a hoverlifter for that"
3000 DATA "The manager is always keen to see me now!"
3010 DATA "The force field weakens and I can pass it now"
3020 DATA "That's far too dangerous here!"
3030 DATA "an electronically encoded padlock"
3040 DATA "cleared around my neck, a lamp"
3050 DATA "a galactic flame thrower and a"
3060 LET i=0: FOR h=1 TO LEN i: LET i=h:0
3070 IF a(h)="" THEN LET i=q(m(h)): TO LEN i:0: LET h=h+10
3100 NEXT h
3110 LET r=0
3120 LET i=0: IF LEN i(1) THEN RETURN
3130 FOR h=1 TO 33: IF h=1: TO LEN i(1):0 THEN LET i=h: LET r=h
3140 NEXT h
3150 RETURN
3160 CLS
3170 BORDER 2
3171 TAB 1: PAPER 7
3172 PRINT TAB 4: "SpaceShip Retreat"
3173 PRINT "INK 2: PRINT TAB 5: "(C) S.M. Lucas 1984"
3180 PAPER 8: CIRCLE 100,87,30
3181 INK 3: PRINT AT 7,1: "an"
3182 INK 1: PRINT AT 9,8: "adventure"
3183 INK 3: PRINT AT 11,10: "game"
3184 RETURN
3200 REM ** keep score **
3210 LET q=0: IF b(4,1)=1 THEN LET q=q+1
3220 IF a(8,1)=1 THEN LET q=q+1
3230 IF b(7,1)=1 THEN LET q=q+1
3240 IF b(5,1)=1 THEN LET q=q+1
3250 IF b(9,1)=1 THEN LET q=q+1
3260 IF b(36,1)=1 THEN LET q=q+1
3270 IF b(29,1)=1 THEN LET q=q+1
3280 IF b(10,1)=1 THEN LET q=q+1
3290 IF b(3,1)=1 THEN LET q=q+1
3300 IF b(1,1)=1 THEN LET q=q+1
3310 IF b(31,1)=1 THEN LET q=q+1
3320 RETURN
3340 PRINT "Just who do you think you are talking to?"
3350 PRINT "What have you got to say for yourself now?"
3360 INPUT z$
3370 IF z$="sorry" THEN PRINT "I'll let you off this time": RETURN
3375 PRINT "he like that then": GO TO 3373
3380 REM gray routine
3390 PRINT "That code we saw? better, but it didn't help or solve my quest!"
3395 GO TO 110
3400 GO SUB 3080
3410 IF z$="lamp" THEN PRINT "O.K. nothing happened....well I'm not Aladdin y" : "ou know": GO TO 230
3420 PRINT "Don't be absurd": GO TO 110
4000 CLS: PRINT "Well done!... you have 1"
4010 PRINT "Successfully located all ten"
4020 PRINT "items of treasure and"
4030 PRINT "have completed this adventure"
4040 PRINT "WELL DONE"
    
```

```

2040 IF p=22 AND (r=47 OR r=48) AND b(33,1)=22 THEN PRINT a(53): LET a(22,2)=3: "I LET a(22,3)=23: LET q(23)=a(14): LET a(35)=1: GO TO 110
2050 IF p=22 AND (r=47 OR r=48) AND b(34,1)=22 THEN PRINT a(53): LET a(22,2)=3: "I LET a(22,3)=23: LET q(23)=a(14): LET a(35)=1: GO TO 110
2060 IF p=27 AND b(28,1)=27 THEN PRINT a(41): LET a(27,2)=39: LET a(27,3)=28: LET b(12,1)=0: LET q(22)=a(15): GO TO 110
2080 IF p=27 AND b(28,1)=27 THEN PRINT a(42): LET b(12,1)=1: GO TO 110
2090 IF p=21 AND r=53 THEN PRINT a(47): LET a(21,2)=29: LET b(32,1)=0: LET b(3,1)=0: GO TO 110
2100 IF p=13 AND (r=14 OR r=18) AND b(13,1)=13 THEN PRINT a(18): GO TO 110
2110 IF p=34 AND r=8 THEN PRINT a(23): LET a(34,3)=35: LET b(10,1)=1: LET b(37,1)=1: GO TO 110
2120 GO TO 110
2130 IF p=10 AND b(7,1)=0 THEN PRINT a(27): LET a(10,3)=4: LET q(24)=a(28): GO TO 110
2140 IF p=29 AND q=0 THEN PRINT a(29): GO TO 110
2150 IF b(7,1)=0 THEN PRINT "I don't have anything to do that with!": GO TO 110
2160 PRINT a(30): GO TO 110
2170 GO SUB 3080
2180 IF p=7 AND r=28 THEN PRINT a(31): LET a(27,3)=28: GO TO 110
2190 IF p=24 THEN PRINT a(37): GO TO 110
2200 PRINT "END WHAT?" : GO TO 110
2210 GO SUB 3080
2220 IF b(8,1)=0 AND r=12 THEN PRINT a(34): GO TO 110
2230 IF p=25 AND (r=25 OR r=26) THEN PRINT a(39): GO TO 110
    
```

Everyone's got it in for you: gangsters, killer tomatoes, kamikazi cyclists — not to mention alien spacecraft and monsters!

Trashman 48K £5.95

New Generation, The Brooklands, 15 Sunnybank, Lyncomb Vale, Bath

We knew life was hard on the streets, but this brilliantly drawn, planned and executed game lets us experience the danger, with kamikazi cyclists, lunatic dogs and short-sighted motorists. A thoroughly enjoyable and addictive program, which uses large, readable type, allows you to enter your name in the hall of fame and has colourful, clever animated graphics.

You start your career in Montague Rd with a bonus of 250 points; time and where you walk causes you to lose them. Clear runs allow bonus points to be "topped-up" by entering houses in response to "Want a tip?" and "Take this thing away — my son is obsessed with it" and so on. After five bins you are sent to Pulteney Rd, where dogs and cars are joined by pavement-riding cyclists.

If you are too slow a newflash tells you so, and gives you two more chances. Failure to speed up results in instant dismissal, while being run down provokes a newflash telling wife and family your points scored, and a dog bite results in a limp.

One you won't resist. **TW**

instructions	85%
playability	90%
graphics	90%
value for money	90%

★ ★ ★ ★ ★

The Pink Pearl 48K £4.95

Astrosoft, 101 Churchdown Rd, Ferndown, Wimborne, Dorset BH22 9ET

An all-text adventure produced using Gilsoft's The Quill, set on a desert island, where your task is to recover the pink pearl and other goodies and escape with them and your life.

Given the excellence of The Quill, the difference between adventures must now lie in the creativity of concept rather than in skill of coding.

An adolescent air hangs over this one. Attack any one of the monsters and it "smashes you in the face" if you have the wrong weapon! Whilst the descriptions of locations are quite good somehow they don't conjure up a vivid picture. Similarly, the directions seem to have been slightly mixed up in places.

D.M.

instructions	75%
playability	80%
graphics	N/A
value for money	100%

★ ★ ★ ★

Mugsy 48K £6.95

Melbourne House, Church Yard, Tring, Herts HP23 5LU

Welcome to Chicago in the 1920's, where this interactive video comic-strip has you cast as Mugsy — da Boss of da hoodlum gang — trying to become the most powerful gangleader in town.

You must manage the gang, make money, organize protection rackets, decide how much to pay for guns and ammo and how much to bribe the local police, in response to comments in speech balloons.

If successful, your life at the top is dangerous, as rival Ricco puts out a contract on your life — which is then acted-out arcade style. Melbourne Draw has been used to develop the hi-res graphics shoot-out in a speakeasy, where you must fight for your life.

Finally, the end of the financial year brings Louie, your hood, to explain how things went. Then the game repeats — assuming



that you are solvent, have a gang and are alive.

This program takes full advantage of the Spectrum's potential for colour, graphics, sound and lettering. **T.W**

instructions	95%
playability	80%
graphics	90%
value for money	85%

★ ★ ★ ★ ★

Revenge of the Killer Tomatoes 48K £5.95

Visions, 1 Felgate Mews, Studland St, London W6

You play the part of Smuffy who has started working for a market gardener. You must walk around a cabbage patch pulling up weeds, while avoiding an assortment of vegetables intent on stopping you.

That's all there is to it. There isn't a multitude of screens to keep you interested, each screen seems exactly the same to me except for switching from killer tomatoes to psycho swedes and manic mushrooms. I couldn't tell the difference between skill levels one and nine!

There are some quite nice touches but it's a pity they have been wasted on such a simple game. You can define your own control keys, the instructions are built into the program and the graphics are clear and well designed although there is little animation.

I had difficulty loading the program and it is only recorded once on the cassette and then not very well. I am surprised that a software house which describes itself as the name in video games should release a game like this. Although professionally presented it's not addictive.

The title screen states it is a "video nasty". I quite agree. **MT**

instructions	85%
playability	30%
graphics	60%
value for money	35%

★ ★

Psytron 48K £7.95

Beyond, Farndon Rd, Market Harborough, Leics LE16 9NR

This game is attractively packaged in a cardboard box with a 20-page colour booklet of instructions included. There is a high score competition in which you can win a Sinclair.

You play the unusual role of a supercomputer in sole charge of the Betula 5 installation which is being attacked by alien spacecraft. This isn't just another arcade game; you must also destroy robot saboteurs which are beamed down, conduct repairs and order and receive supplies.

Spacecraft and robot destroying takes place in real time, while other tasks are conducted in "Freetime" — this simulates the computer's ability to process data instantly.

You are introduced to the game in six levels because of the game's complexity. This is a good idea except that the computer decides when you are ready to advance to a higher level. You must have done well; I only reached the second level, despite many hours of playing.

The first levels are not exciting and I don't think it will liven up much. This is certainly an original game and the 3D graphics are very spectacular, but I have doubts about its addictive qualities. **M.T**

instructions	100%
playability	95%
graphics	50%
value for money	50%

★ ★ ★

ALL THE WORLD'S AGAINST YOU!

CATCH ME



Round and round we go, chasing the black square. Tom Langford's game should keep you amused

Here's a straightforward game for you. Use a grey square to catch a black one. The listing shouldn't take you long to key

in, and then you're away! Use the cursor keys, without SHIFT and NEWLINE, to control the grey square.

The program begins with a screen display and then a loop is used to give a pause. This is because of the slight screen

flicker which can be produced when you use the PAUSE command on the ZX81. Don't be worried by the exceptionally long pause at the beginning of the game: this is caused by the random generation of the later movements of the black squares.

Have fun, and practise your quick reactions on this one!

```

1 CLS
20 DIM A(100)
30 LET B=11
40 LET C=16
50 LET D=1
60 LET X=INT (RND*20)
70 LET Y=INT (RND*30)
80 PRINT AT X,Y;CHR$ 128
90 PRINT AT B,C;CHR$ 136
100 PRINT AT 0,0;"CATCH ME"
110 FOR E=1 TO 100
120 LET A(E)=INT (RND*4)
130 NEXT E
140 PRINT AT 0,0;"GO"
140 IF B=X AND C=Y THEN GOTO 27
145 IF X<=0 OR X>=21 OR Y<=0 OR Y>=31 THEN GOTO 420
150 IF B<=0 OR B>=21 OR C<=0 OR C>=31 THEN GOTO 320
154 PRINT AT B,C;CHR$ 0
156 PRINT AT X,Y;CHR$ 0
160 IF INKEY$="5" THEN LET C=C-
170 IF A(D)=0 THEN LET Y=Y-1
180 IF INKEY$="6" THEN LET B=B+
190 IF A(D)=1 THEN LET Y=Y+1
200 IF INKEY$="7" THEN LET B=B-

```

```

210 IF A(D)=2 THEN LET X=X+1
220 IF INKEY$="8" THEN LET C=C+
230 IF A(D)=3 THEN LET X=X-1
240 LET D=D+1
245 IF D=99 THEN GOTO 370
250 PRINT AT B,C;CHR$ 136
260 PRINT AT X,Y;CHR$ 128
270 GOTO 140
275 CLS
280 PRINT "YOU GOT ME IN ";D
290 FOR G=1 TO 175
300 NEXT G
310 GOTO 0
320 CLS
330 PRINT "OUT OF BOUNDS"
340 FOR H=1 TO 175
350 NEXT H
360 GOTO 0
370 CLS
380 PRINT "TOO SLOW"
390 FOR I=1 TO 175
400 NEXT I
410 GOTO 0
420 CLS
430 PRINT "I GOT AWAY"
440 FOR J=1 TO 175
450 NEXT J
460 GOTO 0
470 STOP

```

Give your software library the professional touch — make printed inlay cards for your cassette.

This program will make manipulation of data easy, as well as organising all the games you have written. You can use it even if you don't have a printer.

All the data is held in one string, a\$, which is undimensioned, and therefore more flexible. This makes loading and saving simple, and of course you don't have endless arrays to save and verify.

The string \$ is divided into 20-character long blocks, containing the information for one program, together with tape number, side and tape

counter position at the beginning to facilitate sorting. Program type and loading instructions are specified after the program name (10 characters).

The variable k is equal to 20. This makes it easier to adjust the length of any section of a\$.

An integer bubble sort has been used, as opposed to a shell sort, which may be faster but is also longer.

If you have a printer which is 80 characters wide, A4 size paper is exactly twice the width of a cassette inlay, so add "-" eight times to j\$.

How it works

- 1-5 initialises with no data
- 95 warning message
- 100-115 display the main menu
- 120-130 INKEY routine to branch out to subroutines from Main Menu
- 1000-1900 subroutine for adding to the file
- 2000-2010 submenu for detaching from file
- 2050-2075 delete program
- 2500-2999 delete tape
- 2078-2115 routine which searches for and deletes the two above
- 3000-3120 input routine for search

- 3130-3999 display each file entry
- 5000-5010 submenu for LPRINTing
- 5080-5100 LPRINT a list of programs
- 5500-5551 choose tape inlay card to LPRINT
- 5556-5581 search for tape's program and transfer to front of a\$
- 5585-5640 sorting routine for the front part of a\$
- 5650-5999 LPRINT inlay card
- 6000-6010 submenu for saving

SEE YOUR INLAY IN

This database-type program by Charlie Dibsdale will print out your own personalised cassette inlay cards, and even if you don't have a printer, you'll still find it handy

```

1 LET k=20
2 REM ** k helps to keep entries in 10,2 is the length of part of a$ that to
3   data for one program **
4 LET a$=""
5 REM ** intro **
6 PRINT AT 3,9;"*****"
7 FOR n=4 TO 15: PRINT AT n,9;"AT n,22:"* NEXT n
8 PRINT AT 15,10;"*****"
9 PRINT AT 5,11;"TOP FILE"
10 PRINT AT 7,15;"By"
11 PRINT AT 9,14;"C.E."
12 PRINT AT 11,12;"Dibsdale"
13 PRINT AT 13,15;"1985"
14 PAUSE 100: CLS
15 PRINT AT 2,0;"If you break out of this program in 'STOP' key not 'RUN'
16   as you would destroy the data:AT 10,0;"PRESS ANY KEY TO GO ON:" PAUSE 50: CLS
17 REM ** main menu **
18 CLS : PRINT AT 3,14;"MENU" OVER 1:AT 2,14;"  " OVER 0
19 PRINT AT 4,2;"1:Add to file"AT 4,2;"2>Delete from file"AT 4,2;"3:Search
20   h file"AT 10,3;"4:Display file sequentially"AT 12,3;"5:LPRINT"AT 14,3;"6:Sa
21   ve file"
22 PRINT AT 16,2;"7:Load file data"AT 18,2;"8:Finish with program"
23 REM ** branching routine **
24 IF INKEY="" THEN GO TO 120
25 IF INKEY="0" OR INKEY="1" THEN GO TO 120
26 LET c=VAL INKEY
27 GO TO (c+1000)
28 REM ** add to file **
29 CLS : PAUSE 50: PRINT AT 0,10;"ADD TO FILE" OVER 1:AT 0,10;"  "
30 OVER 0
31 INPUT "type in the tape number you require to add to (01 to 99):"j$
32 IF VAL j$>99 THEN BEEP .5,10: GO TO 3045
33 IF LEN j$>2 THEN LET c$="0"+j$
34 LET i=j$: LET c=i: LET c$=""
35 PRINT AT i,j;"tape number": GO SUB 1400
36 POKE 23650,8: REM CAPS LOCK
37 INPUT "Side 'A' or 'B' "j$
38 IF b$(j$)="" AND b$(j$)="" THEN BEEP .5,10: GO TO 1070
39 POKE 23650,4: REM lower case
40 PRINT AT i,2;"side": GO SUB 1400
41 INPUT "tape counter start position (000 to 999):"j$

```

```

1082 IF LEN b$>2 THEN BEEP .5,10: GO TO 1081
1085 PRINT AT i,2;"tape counter": GO SUB 1400
1090 INPUT "program name "j$
1095 REM ** where it comes in **
1100 IF LEN b$>100 THEN LET b$=b$+1: GO TO 10-LEN b$
1110 PRINT AT i,2;"program name": GO SUB 1400
1120 INPUT "program type (eg:game etc) "j$
1130 IF LEN j$>2 THEN BEEP .5,10
1140 PRINT AT i,2;"program type": GO SUB 1400
1150 INPUT "loading instructions (eg:CODE etc:use 2 letters "j$
1160 IF LEN j$>2 THEN BEEP .5,10: GO TO 1150
1165 PRINT AT i,2;"loading inst": GO SUB 1400
1170 INPUT "are you happy with this entry (Y/N) "j$
1180 IF b$(j$)="" OR b$(j$)="" THEN GO TO 1000
1190 IF b$(j$)="" AND b$(j$)="" THEN GO TO 1170
1200 LET a$=a$+c$: GO TO 100
1205 LET c$=c$+b$: PRINT AT i,c$: LET i=i+2: RETURN
1210 REM ** delete from file **
1220 CLS : PAUSE 50: PRINT AT 3,2;"DELETE FROM FILE" OVER 1:AT 3,2;"  "
1230 " : OVER 0:AT 5,2;"1>Delete a tape"AT 7,2;"2>Delete a program"AT 9,2;"3
1240   Menu"
1250 LET i=2000: GO TO 8700
1255 CLS : PRINT AT 3,3;"Delete a program"
1260 INPUT "Enter name of program, use 10-1999 spaces:"j$
1270 IF LEN j$>10 THEN LET b$=b$+1: GO TO 10-LEN b$
1275 LET i=j$: LET c$=""
1280 REM ** search & delete **
1285 IF LEN a$>20 THEN LET a$="" : GO TO 2115
1290 IF b$=a$ TO 20 THEN LET a$=a$ TO 1: GO TO 2080
1295 FOR n=1 TO LEN a$: STEP 5
1300 IF a$(n) ? n+20+08 THEN LET a$=a$ TO n+a$(n+2) TO 1: IF n=LEN a$ THEN
1310   GO TO 2100
1315 NEXT n
1320 CLS : PRINT AT 3,3;"has been deleted": PAUSE 100: GO TO 2080
1325 CLS : PAUSE 50: PRINT AT 3,3;"Delete a tape"
1330 INPUT "Tape number to be deleted (01 to 99):"j$
1335 IF LEN j$>2 THEN LET b$="0"+j$
1340 IF LEN b$>2 THEN GO TO 2530
1345 LET i=j$: LET c$="" : GO TO 2075
1350 REM ** search routine **
1355 CLS : PAUSE 50: PRINT AT 2,10;"SEARCH FILE" OVER 1:AT 2,10;"  "
1360 OVER 0
1365 LET v=0
1370 REM ** field of search **
1375 REM ** print out layout **
1380 PRINT AT 5,2;"Choose the number you require to look for"
1385 LET i=j$
1390 FOR n=0 TO 10 STEP 2

```

6050-6070 save and verify data
 6500-6999 save program with data and verify
 7000-7999 load data
 8010 subroutines

x set for return to part of program from pseudo sub-routine at 8700
 zi, zo search routine delete. Set for program 2075 or tape number 2540 to utilize the same search routine starting at 2078
 fog variable for printing

Variables

a\$ data
 k data within a\$ capable of holding information of program

PRINT

b\$ temporary store
 f\$ set the program name to 10 chr\$ if less than 10
 n for - next
 lnk holds numeric input from keyboard from Main Menu
 ln, cn line column number for printing during input sub-routine
 c\$ temporary store ln input routine before adding to a\$

fr,num search routine for subsections of a block of a\$
 e\$ LPRINTs your tape name on spine of inlay card
 tp set to how many blocks of a\$ are of the same tape to be LPRINTed
 j\$ bends on inlay card
 bal pointer to see if Side B is to be LPRINTed on inlay card
 fg set to tp and used in Sort
 v flag to see whether item being looked for is present

```

3030 PRINT AT 0,0: FLASH: IF fog: LET fog=fog+1: FLASH: G: NEXT n
3040 GO SUB 8010
3045 LET f=1
3047 REM ** input field req'd **
3050 INPUT "number";num
3060 IF num=1 THEN LET f=0
3070 IF num=2 THEN LET f=num
3080 IF num=3 THEN LET f=0
3090 IF num=4 THEN LET f=0
3100 IF num=5 THEN LET f=1
3110 IF num=6 THEN LET f=1
3115 IF f=1 THEN REPEAT 5,10: GO TO 600
3120 INPUT "Search for";j$
3125 CLR: GO SUB 8010
3130 PRINT AT 3,1:"press any key to resume search"
3135 REM ** search routine **
3137 FOR n=1 TO LEN a$ STEP 1
3140 IF b$=a$(n): TO n+1:LEN b$=1 THEN GO SUB 8500
3150 NEXT n
3155 IF v=0 THEN PRINT "Item not found try option 4 from menu press any key for menu": PAUSE 0: GO TO 100
3160 PRINT "Search complete press any key logo to menu"
3170 PAUSE 0: GO TO 100
3999 REM ** display file sequen.
4000 CLR: PAUSE 50: PRINT AT 3,3:"DISPLAY FILE SEQUENTIALLY": OVER 1:AT 3,1:
" OVER 0:AT 5,3:"Press 'c' for next program" "a" to
"exit to menu"
4005 GO SUB 8010
4010 FOR n=1 TO LEN a$ STEP 1
4020 GO SUB 8500
4030 IF INKEY="" THEN GO TO 4030
4040 IF INKEY="E" OR INKEY="e" THEN GO TO 100
4050 IF INKEY="C" AND INKEY="c" THEN GO TO 4030
4060 NEXT n
4070 PAUSE 100: CLR: PRINT AT 3,3:"COMPLETE going to menu": PAUSE 30: GO TO 100
4999 REM ** LPRINT routine **
5000 CLR: PAUSE 50: PRINT AT 3,10:"LPRINT FROM FILE": OVER 1:AT 2,10:
" OVER 0:AT 4,3:"Lprint cassette inlays":AT 6,3:"Lprint a list o
f all programs":AT 8,3:"(3) Menu"
5010 LET v=5000: GO TO 8700
5015 REM ** LPRINT a list prog's
5020 FOR n=1 TO LEN a$ STEP 1
5030 LPRINT a$(n): TO n+1:
5100 NEXT n: GO TO 100
5499 REM ** cassette inlays **
5500 CLR: PRINT AT 3,3:"LPRINT CASSETTE INLAYS": OVER 1:AT 3,3:
" OVER 0:AT 5,3:"If you do not know which tape number you want
press 'a' to go to the save menu to find it or any oth
er key to go on"
5510 PAUSE 0
5520 IF INKEY="a" OR INKEY="n" THEN GO TO 150
5530 INPUT "Tape number to be Lprinted" 101 to 99: " :;
5540 IF LEN a$=2 THEN GO TO 5550
    
```

```

5550 IF LEN a$=2 THEN LET b$="0"
5551 INPUT "Four digit tape name";c$
5555 CLR: PRINT AT 10,0:"PLEASE WAIT"
5556 REM ** search for tape **
5557 LET tp=0: IF b$=1: TO 2: THEN LET tp=1
5558 REM ** and place in front part of a$ **
5560 FOR n=1 TO LEN a$: STEP 1
5570 IF a$(n): TO n+1:LEN b$=1: LET b$=a$(n): TO n+1:LEN b$=1:
TO 2: LET tp=1
5572 NEXT n
5575 IF b$=a$(LEN a$-1): TO (LEN a$-1): THEN LET b$=a$(LEN a$-1): TO (LEN a$-1):
TO LEN a$: LET tp=1
5580 IF tp=0 THEN CLR: PRINT "This tape not found!": PAUSE 100: GO TO 100
5581 IF tp=1 THEN GO TO 5650
5585 REM ** sort front part a$ **
5586 REM ** integer bubble sort **
5587 REM ** why not try a shell-sorter? **
5590 LET fg=tp
5600 LET cn=1: LET cm=0
5610 IF a$(cn): TO cn+1:LEN a$=1: TO (cn-1):LEN a$ THEN LET b$=a$(cn): TO cn+1:
TO cn+1:LEN a$=1: TO (cn-1):LEN a$: LET a$(cn)=a$(cn+1): LET a$(cn+1)=b$:
5620 LET cn=cn+1: IF cn=fg THEN GO TO 5610
5630 IF cm=0 THEN GO TO 5650
5640 LET fg=fg+1: GO TO 5600
5645 REM ** and LPRINT it **
5650 FOR n=0 TO 5: LPRINT: NEXT n
5660 LET j$="*****"
5670 LPRINT j$: LPRINT: LPRINT "TAPE NUMBER:";a$; TO 2: " :; LPRINT: LPRINT
" SIDE A": LPRINT: LPRINT "FORM. PROG.:"
5680 LET bal=0
5690 FOR n=1 TO tp: STEP 1
5691 IF bal=1 THEN GO TO 5700
5692 IF a$(n): TO n+1:LEN a$=1: THEN LPRINT: LPRINT " SIDE B": LET bal=1
5700 LPRINT: LPRINT a$(n): TO n+1: " :; LPRINT: LPRINT " :; LPRINT: LPRINT a$(n): TO n+1: " :;
5730 NEXT n
5740 GO TO 100
5999 REM ** save routines **
6000 CLR: PAUSE 50: PRINT AT 3,3:"SAVE FILE": OVER 1:AT 3,3:
" OVER 0
:AT 5,3:"Save current data only":AT 7,3:"(2) Save current data only":AT 9,3:"(3)
Menu"
6010 LET v=6000: GO TO 8700
6020 SAVE "Lapfile" DATA a$
6030 CLR: PRINT AT 10,0:"REWIND TAPE,CHANGE LEADS TO VERIFY"
6040 VERIFY "Lapfile" DATA a$
6070 GO TO 100
6080 SAVE "Lapfile" LINE 100
6090 CLR: PRINT AT 10,0:"REWIND TAPE,CHANGE LEADS TO VERIFY"
6100 VERIFY "Lapfile"
6520 GO TO 100
6999 REM ** and load **
7000 CLR: PRINT AT 10,0:"LOADING DATA FILE"
7010 LOAD "Lapfile" DATA a$
7020 GO TO 100
7999 REM ** finished **
8000 RANDOMIZE USR 0
8010 PRINT AT 8,9:"TAPE":AT 10,9:"SIDE":AT 12,9:"COUNTER"
8015 REM ** subroutines **
8020 PRINT AT 14,1:"PROGRAM":AT 16,1:"PROGRAM TYPE":AT 18,1:"LOADING INST"
8030 RETURN
8500 PRINT AT 9,14:ARIN TO n+1:AT 10,14:ARIN+2:AT 12,14:ARIN+3 TO n+5:AT 14,1
4:ARIN+6 TO n+15:AT 16,14:ARIN+16 TO n+17:AT 18,14:ARIN+18 TO n+19
8505 LET v=1
8509 PAUSE 0
8510 RETURN
8700 IF INKEY="" THEN GO TO 8700
8710 IF INKEY="1" THEN LET v=500: GO TO v
8720 IF INKEY="2" THEN LET v=50: GO TO v
8730 IF INKEY="3" THEN GO TO 8700
8740 GO TO 100
    
```

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